

WHAT IS CLAIMED IS:

1. A method for relaying communication data from a source terminal to a destination terminal in a particular area via at least one intermediary terminal, the method comprising:

repeating relaying the communication data between two of the terminals such that the communication data is relayed in a first particular direction from a first terminal to a second terminal, until the communication data reaches an intermediary terminal mounted in a vehicle in the particular area; and

relaying the communication data in any direction, after the communication data reaches the intermediary terminal in the particular area;

wherein the communication data reaches the destination terminal.

2. The method according to claim 1, wherein the first particular direction is from a source terminal of the communication data to a target position in the particular area, one of the intermediary terminals which receives the communication data being determined based upon the position of the source terminal and the target position.

3. The method according to claim 2, wherein the target position is the center of the particular area.

4. The method according to claim 1, wherein said at least one vehicle in the particular area is the vehicle closest to the center of the particular area.

5. The method according to claim 1, wherein the communication data is relayed

to an intermediary terminal in the first particular direction after the intermediary terminal is identified.

6. The method according to claim 1, wherein the communication data is relayed to an intermediary terminal in any direction through broadcasting without identifying the intermediary terminal.

7. The method according to claim 6, wherein broadcasting of the communication data is repeated a predetermined number of times of relaying.

8. The method according to claim 6, wherein broadcasting of the communication data is repeated as long as the intermediary terminal performing the broadcasting is in the particular area.

9. The method according to claim 1, wherein the communication data relayed to the destination terminal comprises a predetermined message and a planned driving route of the vehicle having a source terminal which has sent the communication data, and the destination terminal sends communication data containing a response message to the source terminal mounted in the vehicle traveling along the planned driving route.

10. The method according to claim 9, wherein relaying of the communication data containing the response message is repeated between two terminals such that the terminal that receives the response message containing communication data is located in a second particular direction until the response message containing communication data reaches an intermediary terminal near the source terminal in the vehicle traveling

along the planned driving route and, after the response message containing communication data reaches the intermediary terminal near the source terminal, the response message containing communication data is relayed in any direction.

11. The method according to claim 10, wherein the second particular direction is towards an estimated driving position on the planned driving route, wherein the vehicle having the source terminal travels toward the estimated driving position with an estimated time of response arrival at which the response message containing communication data will approximately reach the source terminal, and an intermediary terminal which receives the response message containing communication data is determined based upon the position of the destination terminal and the estimated driving position.

12. The method according to claim 11, wherein the destination terminal calculates the estimated driving position based on the driving speed of the vehicle having the source terminal and the time from when the source terminal sent the communication data.

13. The method according to claim 1, wherein a communication range of communication data relay in the first particular direction is longer than a communication range of communication data relay in any direction.

14. The method according to claim 1, wherein communication data relay in the first particular direction differs from communication data relay in any direction in a channel, a communication speed, or a communication frequency.

15. An inter-vehicle communication system for sending communication data from a source terminal to a destination terminal in a particular area via at least one intermediary terminal mounted in a vehicle, each intermediary terminal comprising:

- a first receiving segment for receiving communication data sent from the source terminal or another of the intermediary terminals;

- a determining segment for determining whether or not a condition is satisfied, the condition indicating that the intermediary terminal itself is in the particular area or that the communication data is received from another intermediary terminal in the particular area;

- an intermediary target setting segment for identifying another intermediary terminal in any direction or the destination terminal when the determining segment determines that the condition is satisfied or for identifying another intermediary terminal in a first particular direction or the destination terminal when the determining segment determines that the condition is not satisfied; and

- a first sending segment for sending the communication data to the intermediary terminal or the destination terminal as determined by the intermediary target setting segment.

16. The inter-vehicle communication system according to claim 15, said each intermediary terminal further comprising a terminal detecting segment for detecting other intermediary terminals or the destination terminal in a communication range at predetermined intervals.

17. The inter-vehicle communication system according to claim 15, wherein the communication data sent from the source terminal comprises the vehicle position of

the vehicle having the source terminal and a target position in the particular area, and the intermediary target setting segment determines the first particular direction based upon the vehicle position and the target position.

18. The inter-vehicle communication system according to claim 17, wherein the target position is set with a navigation unit.

19. The inter-vehicle communication system according to claim 15, wherein the communication data sent from the source terminal comprises a planned driving route of the vehicle having the source terminal, and the destination terminal comprises a second receiving segment for receiving the communication data via at least one intermediary terminal and a second sending segment for sending communication data containing a response message to the source terminal mounted in a vehicle traveling along the planned driving route.

20. The inter-vehicle communication system according to claim 19, wherein the communication data sent from the source terminal further comprises a transmission start time when the communication data was sent; the destination terminal further comprises an estimated arrival time calculating segment for calculating an estimated time of response arrival at which the communication data containing the response message will approximately reach the source terminal based upon the planned driving route, the transmission start time, and the driving speed of the vehicle having the source terminal; the planned driving route and the driving speed are contained in the communication data received by the second receiving segment; the communication data sent from the second sending segment in the destination terminal comprises an

estimated driving position on the planned driving route; and the intermediary target setting segment of one of the intermediary terminals which receives the communication data containing the response message determines a second particular direction in which the communication data is relayed based upon the position of the destination terminal and the estimated driving position and, relays the communication data to another intermediary terminal in the second particular direction.

21. A method for relaying a response message from a destination terminal to a source terminal via at least one intermediary terminal, the method comprising:

relaying communication data from a source terminal to a destination terminal;  
the destination terminal generating a response message; and

repeatedly relaying the response message between two of the terminals such that the response message is relayed in a particular direction from a first terminal to a second terminal until the response message reaches an intermediary terminal near the source terminal in a vehicle traveling along a planned driving route and, after the response message reaches the intermediary terminal near the source terminal, the response message is relayed in any direction;

wherein the response message reaches the source vehicle.

22. The method according to claim 21, wherein the particular direction is towards an estimated driving position on the planned driving route, wherein the vehicle having the source terminal travels toward the estimated driving position with an estimated time of response arrival at which the response message will approximately reach the source terminal, and an intermediary terminal which receives the response message is determined based upon the position of the destination terminal

and the estimated driving position.